

to any part of its surface is visible; and it is the same with the European species, according to the observations of Eschricht and Reinhardt.

The hyoid bone is of the same form as that figured in Cuvier's 'Ossem. Foss.' vol. i. pl. 25. f. 13, being only somewhat larger in the middle, where the two cornua hyoidea are attached. The transverse diameter is 20 inches, and the longitudinal in the middle of one of the two points 7 inches. The cornua have a more curved form than that figured by Cuvier, and are 12 inches long.

Finally I should mention, what I omitted before, that in the cranium is a distinct lachrymal bone on each side in the prolongation of the orbit at the fore end, like that in Cuvier's figures (pl. 26), to which is attached the zygomatic bone, as Cuvier figures the Rorqual of the Cape of Good Hope (fig. 1 of the same plate). The tympanic bone is persistent and firmly united with the cranium; and the vomer rather short, not longer than in the same figures of Cuvier, and divided at the fore end by a longitudinal fissure into two parallel lobes  $2\frac{1}{2}$  inches in length.

6. Description of a New Genus of *Spinacidae*, founded upon a Shark obtained at Madeira. By JAMES YATE JOHNSON, C.M.Z.S.

The Shark which forms the subject of the present communication is closely allied to those members of the family *Spinacidae* which constitute the genus *Centrophorus*; but since it possesses a mesial tooth in the lower jaw it cannot be assigned to that genus, and I therefore propose to found upon it a new genus named

MACEPHILUS.

Body elongate, prismatic-triangular in section; head depressed, not distinct from the body; nostrils on the inferior side of the head; spout-holes large, furnished with valves, and situate on the upper side of the head above the eyes; a deep groove at the commissure of the lips. Scutella (scales) stalked. Two dorsal fins, each supported by a strong spine. No anal fin. The teeth of different form in the two jaws; those of the upper jaw consisting of triangular cusps on subquadrate bases; those of the lower jaw composed of cusps on subquadrate bases, the cusps being more and more inclined backwards as the teeth approach the back of the mouth, thus presenting oblique incisorial edges. A mesial tooth, consisting of an upright equilateral cusp on a quadrate base, in the lower jaw.

MACEPHILUS DUMERILLI, ♂.

Of a uniform brownish-grey colour. Head rather broad, depressed,  
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concave between the eyes and spout-holes; cheeks convex; snout short, rounded in front, flat above and below. Nostrils large, reaching to the sides of the snout. Eye-slit almond-shaped. Spout-holes transversely oval, placed above the eyes. Mouth wide; the jaws slightly but evenly convex; the upper jaw protrusile from beneath the scaly skin. The slit or groove at the commissure advances to the vertical from the middle of the eye, leaving a considerable space between the opposite grooves. The posterior part of the slit is very shallow, and does not extend beyond the vertical from the posterior edge of the spout-holes.

The teeth of the upper jaw are composed of sharp narrow upright conico-compressed cusps on subquadrate bases; and several rows of them are in use at once. In the lower jaw there are two rows of teeth, formed of broad flattened cusps on subquadrate bases, which have a ridge down the middle. The cusps, as the teeth approach the back of the mouth, become more and more inclined backwards, but their apices bend upwards and form an acute point; thus only part of one edge of the cusp presents an incisorial edge, at the middle of the lower jaw, having both its sides in front of the adjacent teeth. It is formed of an upright equilateral cusp with acute edges placed on a quadrate base.

The five branchial openings are large, and are situate in front of the pectoral fin, the hindmost embracing the anterior part of the root of that fin.

All the fins are clothed with scales. The first dorsal fin is nearer to the pectoral fin than to the ventral fins, and has in its front part a strong spine more than half as high as the fin, which is so much worn in the specimen that its shape cannot be accurately stated. The second dorsal fin is rounded in front, where it is higher than the anterior fin. It is also armed with a strong spine (which, however, is not quite so large as the spine of the first dorsal), and it is acuminate behind and prolonged in a direction nearly parallel with the tail. The ventral fins have two-thirds of the total length of the fish in front of them. Their anterior angles are rounded off, their posterior angles prolonged and pointed. The caudal fin is shaped much like that of the true *Centrophori*. The tail bends upwards inside the upper lobe, and the lower lobe is well developed. The upperside of the tail behind the dorsal fin is concave. The lateral line is high up on the side of the body and straight. The claspers are furnished with a slender spine.

The scutella or scales are stalked, and have subrotund laminae continuous with their stalks, each lamina being marked by two lateral and a median crest, which projects behind as an equilateral tooth. The hinder edge of the lamina is minutely serrulate.

The species is named in compliment to Professor Auguste Duméril of the Jardin des Plantes, Paris, the author of a valuable work describing the known genera and species of Sharks.

The dimensions of the single example obtained (which has been added to the collection of the British Museum) are given below.

	inches.
Total length . . . . .	43 $\frac{1}{2}$
Height under first dorsal . . . . .	7
Head, width at spout-holes . . . . .	5 $\frac{3}{8}$
Eye-slit, length . . . . .	2 $\frac{1}{4}$
———, distance from snout . . . . .	2 $\frac{7}{8}$
Spout-holes, length . . . . .	1 $\frac{1}{8}$
Mouth, width = distance from snout . . . . .	3 $\frac{3}{8}$
Pectorals, width of base . . . . .	2
———, distance from snout . . . . .	9 $\frac{1}{4}$
First dorsal, length of base . . . . .	5 $\frac{3}{4}$
———, vertical height . . . . .	2 $\frac{1}{8}$
Second dorsal, length of base . . . . .	3 $\frac{1}{2}$
———, vertical height . . . . .	2 $\frac{1}{4}$
Ventrals, width of base . . . . .	1 $\frac{2}{5}$
———, distance from snout . . . . .	27
Caudal, length . . . . .	9 $\frac{1}{2}$

7. Description of *Halcrosia afzelii*\*, a new Crocodile from Sierra Leone, West Africa. By WILHELM LILLJEBORG, Professor of Zoology in the University of Upsala, F.M.Z.S.

Length from the point of the nose to the tip of the tail about 4' (Swedish workmen's measure †, *i. e.* with 12 inches to the foot). Length of the head from the os quadratum 7 $\frac{1}{4}$ " ; breadth of the head at the back part 4 $\frac{1}{4}$ " ; its length from the posterior extremity of the under jaw 8" , from the orbits to the point of the nose 3 $\frac{5}{8}$ " ; breadth of the nose over the ninth tooth, the widest part of the upper jaw, 2 $\frac{7}{16}$ ". Length of the lower jaw 2". The head's length in proportion to its breadth marks it as a short broad form ; the nose is, however, much narrower than in the *Halcrosia frontata* (Murray) ‡, as is evident by the proportion of the breadth above the ninth tooth to the distance between the orbit and the tip of the nose, the former being but about two-thirds of the latter. According to Murray's figure this breadth amounts to three-fourths of the above-mentioned distance. With respect to the form of the nose, it appears to be intermediate between *Halcrosia frontata* and *Crocodilus vulgaris*. The fosse supratemporales are small, and their lower openings very small, situated in front, and directed outwards and forwards. The supratemporal or sincipital plane is somewhat concave in the middle, and the forehead between the orbits destitute of keel.

\* With this name we call to remembrance the late Professor Adam Afzelius of Upsala, who brought home to Sweden from Sierra Leone this specimen, together with many other interesting specimens of animals and vegetables.

† Swedish feet and (workmen's) inches are reduced to English by multiplying by 0.9741, or dividing by 1.0266.

‡ Gray, P. Z. S. 1862, p. 213.